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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/620,707 | 07/20/2000 | Masaharu Ogawa | Q58688 | 3363 |

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| EXAMINER |
|---|
| KAO, CHIH CHENG G |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2882 | |

DATE MAILED: 09/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/620,707 | OGAWA, MASAHARU | |
| | Examiner | Art Unit | |
| | Chih-Cheng Glen Kao | 2882 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *13 June 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *13 June 2002* is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *11* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imai (EP 0898421).

Imai discloses a solid state radiation detector (Fig. 13A) comprising: a first electrode layer (Fig. 13A, #1), a recording photoconductive layer (Fig. 13A, #2), a reading photoconductive layer (Fig. 13A, #4), a second electrode layer constructed of a large number of main line electrodes (Fig. 13A, every other #5a) permeable to reading light (inherent), secondary line electrodes alternately arrange in parallel to the main electrodes (Fig. 13A, every electrode between every other #5a), for outputting an electrical signal which has level proportional to a quantity of latent image charge stored in a charge storage portion formed between the said photoconductive layers, and said layers being stacked in recited order (Fig. 13A).

However, Imai does not seem to specifically disclose the condition equation of $(W_h \times P_h) / (W_c \times P_c) \geq 1$.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have $(W_h \times P_h) / (W_c \times P_c) \geq 1$ with the device of Imai, since it would have only involved routine skill in the art to discover the optimum or workable ranges when the

general conditions of a claim are disclosed in the prior art. In the prior art, the main electrodes and secondary electrodes are exactly the same in width and transmittance. Thus, the conditions of $(W_b \times P_b) / (W_c \times P_c) \geq 1$ are met. One would be motivated to make main and secondary electrodes of the same width and transmittance for ease of manufacturing. It costs less to manufacture only one type of electrode instead of two types of electrodes.

2. Claims 2 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imai as applied to claim 1 above, and further in view of Luke (US Patent 6218668)

Imai suggests a device as recited above

However, Imai does not seem to specifically disclose different width electrodes, the main widths less than the secondary widths or the secondary widths less than the main widths wherein the condition equation of $(W_b \times P_b) / (W_c \times P_c) \geq 5$ is met.

Luke further teaches different width electrodes (Fig. 8A and 8B), the main widths less than the secondary widths (Fig. 8A) or the secondary widths less than the main widths (Fig. 8C).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the different width electrodes where the main or secondary width is less of Luke with the suggested device of Imai, since one would be motivated to adjust the charge induction characteristics to suit the particular detector material parameters and bias conditions as shown by Luke (col. 6, lines 49-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to meet $(W_b \times P_b) / (W_c \times P_c) \geq 5$ with the suggested device of Imai in view of Luke, since it would only involve routine skill in the art to discover the optimum or

workable ranges where the general conditions of a claims are disclosed in the prior art (refer to col. 7, lines 5-6). One would be motivated to satisfy the condition equation by changing widths or the geometry of the electrodes for adjusting the charge induction characteristics to suit the particular detector material parameters and bias conditions as shown by Luke (col. 6, lines 49-65).

3. Claims 3, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imai as applied to claim 1 above, and further in view of Nelson et al. (US Patent 5,508,507).

Imai suggests a device as recited above.

However, Imai does not seem to specifically disclose line electrodes made of any one among a list of compounds including aluminum.

Nelson et al. teaches electrodes made of aluminum (col. 14, lines 48-49).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the aluminum electrodes of Nelson et al. with the suggested device of Imai, since one it would have been within the general skill of a worker in the art to select a known material on the basis of its suitability for its intended use as shown by Nelson et al, wherein that use is electrical conductivity which is characteristic of aluminum and its semi-transparent characteristics (col. 9, lines 7-8) for allowing light to travel through as shown in Figure 1.

4. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imai in view of Luke as applied to claim 2 above, and further in view of Nelson et al.

Imai in view of Luke suggests a device as recited above.

However, Imai does not seem to specifically disclose line electrodes made of any one among a list of compounds including aluminum.

Nelson et al. teaches electrodes made of aluminum (col. 14, lines 48-49).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the aluminum electrodes of Nelson et al. with the suggested device of Imai in view of Luke, since one it would have been within the general skill of a worker in the art to select a known material on the basis of its suitability for its intended use as shown by Nelson et al, wherein that use is electrical conductivity which is characteristic of aluminum and its semi-transparent characteristics (col. 9, lines 7-8) for allowing light to travel through as shown in Figure 1.

### *Response to Arguments*

5. The objection to the Specification and Drawings have been withdrawn.

6. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glen Kao whose telephone number is (703) 605-5298. The examiner can normally be reached on M - Th (8 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

gk
September 12, 2002

ROBERT H. KIM
PRIMARY EXAMINER
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